

SPEAKER STACKING STRUCTURE

BACKGROUND OF THE INVENTION

1. Field of the Invention

5 The present invention relates generally to speakers and, more specifically, to a speaker stacking structure, which enables a number of speakers to be conveniently positively arranged in a stack.

2. Description of the Related Art

 In some cases, speakers may be arranged in a stack. However speakers may
10 fall to the ground upon a vibration or impact if they are simply put one above another. Therefore, positioning members must be used to fix speakers in position after arranged in a stack. There are speaker racks adapted to hold a number of speakers at different elevations. However, these speaker racks are designed to fit specific size or sizes of speakers, not practical for holding assorted sizes of speakers.

15 Therefore, it is desirable to provide a speaker stacking structure that eliminates the aforesaid problems.

SUMMARY OF THE INVENTION

 The present invention has been accomplished under the circumstances in view. It is the main object of the present invention to provide a speaker stacking
20 structure, which enables a number of speakers to be arranged in a stack without the use of any other positioning structure or apparatus. It is another object of the present invention to provide a speaker stacking structure, which keeps the arranged stack of speakers firmly in unity to cause a sense of beauty. It is still another object of the present invention to provide a speaker stacking structure, which enables a number of
25 speakers of different sizes to be arranged in a stack to form one of a variety of

combinations.

To achieve these and other objects of the present invention, the speaker stacking structure comprises a speaker, the speaker having a speaker cabinet, the speaker cabinet having a receiving chamber adapted to accommodate speaker circuit means, and two bearing walls disposed at two opposite sides; a plurality of locating blocks respectively symmetrically fastened to the bearing walls of the speaker, the locating blocks each having a block body, the block body having a mounting face and a bearing face opposite to the mounting face, the mounting face being disposed in contact with the bearing wall of the speaker, the bearing face being disposed in contact with the bearing face of another locating block, a mounting device respectively fastened to said bearing wall of the speaker, and a plughole; and a plurality of fastening members adapted to connect two speakers together, the fastening members each having a stem insertable into the plughole of each said locating block.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded view of two speakers constructed according to the present invention.

FIG. 2 is an exploded view of a speaker stacking structure according to the present invention.

FIG. 3 is an exploded side plain view of the speaker stacking structure according to the present invention.

FIG. 4 is a side plain view showing two speakers arranged in a stack according to the present invention.

FIG. 5 is an enlarged view of a part of FIG. 4.

FIG. 6 is an exploded side plain view of a part of an alternate form of the speaker stacking structure according to the present invention.

FIG. 7 is an exploded view in section of a part of another alternate form of the speaker stacking structure according to the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIGS. 1~5, a speaker stacking structure in accordance with the present invention is shown including a speaker **10**, a plurality of locating blocks **30**, a plurality of fastening members **50**, and two handles **70**.

The speaker **10** has a speaker cabinet **11** defining a receiving chamber **12** adapted to accommodate speaker circuit means (not shown). The speaker cabinet **11** has two opposite bearing walls **13**, a plurality of mounting holes **14** symmetrically formed in the bearing walls **13** (for example, four mounting holes in each bearing wall), two handle holders **15** respectively disposed at two ends of the longitudinal axis, and a plurality of tie holes **16** symmetrically formed in the handle holders **15** (for example, four tie holes in each handle holder).

The locating blocks **30** each have a wedge-like block body **31**. The wedge-like block body **31** has a mounting face **33** disposed at a bottom side of the block body **31**, a bearing face **34** disposed at a top side of the block body **31** opposite to the mounting face **33**, two mounting devices (for example, countersunk holes) **35** for fastening to the mounting holes **14** of the speaker cabinet **11** by screws **B1**, two tapered plugholes **37**, and two countersunk holes **38** respectively formed in the bearing face **34** integral with the orifices of the tapered plugholes **37**.

The fastening members **50** each have a tapered stem **51** for plugging into the tapered plugholes **37** of the locating blocks **30**, a shoulder **53** for fitting into the countersunk holes **38** of the locating blocks **30**, threads **55** extended around the periphery of the stem **51**, and an axle hole **57** axially extended through the two ends.

The handles **70** each have a handle body **71**, and two mounting portions **73**

respectively extended from two ends of the handle body **71** for fastening to the tie holes **16** in the handle holders **15** by screws **B2** for enabling the user to carry the speaker **10** with one or both hands.

The assembly process of the present invention is outlined hereinafter with
5 reference to FIGS. 2 and 3. Attach the mounting face **33** of each locating block **30** to each bearing wall **13** of the speaker **10** respectively, and then affix the respective mounting portions **35** to the respective mounting holes **14** by screws **B1**.

When wishing to arrange two speakers **10** in a space, as shown in FIGS. 4 and 5, insert the stems **51** of the fastening members **50** into the plugholes **37** in the
10 locating blocks **30** at one bearing wall **13** of the speaker cabinet **11** of the first speaker, and then couple the plugholes **37** in the locating blocks **30** at one bearing wall **13** of the speaker cabinet **11** of the second speaker to the stems **51** of the installed fastening members **50**, and thus the two speakers are arranged in a stack.

The speaker stacking structure can be designed for enabling a number of
15 speakers to be connected in series in horizontal direction.

FIG. 6 shows an alternate form of the present invention. According to this embodiment, each locating block **30A** is adjustably slidably coupled to a respective coupling member **20A** at the speaker. As illustrated, the coupling member **20A** has a dovetail tongue **21A**, and the locating block **30A** has a dovetail groove **32A** coupled to
20 the dovetail tongue **21A**. This design enables the user to adjust the pitch between the two locating blocks at each bearing wall of the speaker cabinet of the speaker.

FIG. 7 shows another alternate form of the present invention. According to this embodiment, fitting elements **39A** are selectively mounted in each locating block for accommodating a respective fastening member **50**. The fitting elements **39A** define
25 a respective plughole for receiving a respective fastening member **50**.

Further, the locating blocks may be directly molded from plastics on the speaker cabinet.

As indicated above, the invention has the following features:

1. The invention enables a number of speakers to be conveniently arranged
5 in a stack without the use of any other positioning structure or apparatus.
2. The invention enables the user to arrange a number of speakers in a stack easily, keeping the arranged stack of speakers firmly in unity to cause a sense of beauty.
3. The invention enables a number of speakers of different sizes to be
10 arranged in a stack to form one of a variety of combinations.